

Minutes of NCEO – ORAC meeting, 17th December 2009, RAL

Present: Chris Arnold, Caroline Poulsen, Andy Sayer, Richard Siddans, Gareth Thomas

1. GRAPE & GEWEX

ATSR-2 and AATSR GRAPE products are now available on the BADC up to the end of 2003. Level 2 processing has now finished up to the end of the year 2008. Andy anticipates that Level 3 processing will finish early next year. At the moment the RTMs needed for 2009 are being processed, and then 2009 data will follow when available.

Andy also showed some comparisons of ground-based vs. satellite cloud-top height, including a correction to account for the IR penetration depth of photons. Richard suggested using the vertical profile of scattering (if available) as a proxy for the vertical profile of cloud optical depth as a better approximation than vertical homogeneity; Andy will try this.

Andy also discussed some GRAPE retrieval statistics as have been circulated around the group. In conjunction with Chris, he has been finalising quality settings in preparation for the GEWEX data submission closing date (31st December).

Richard suggested using a different error budget for the 1.6 micron channel to retrospectively calculate a different cost where this measurement is given more weight, as it is consistently fitted below GRAPE retrieval uncertainty. Andy will double-check that the calculations for the normalised residual are correct. Caroline will provide residuals for single-layer and multi-layer cases at this wavelength to see if there is clear discrimination between single-layer and multi-layer cases.

2. ADIENT

Gareth has updated the website with CALIPSO & MISR aerosol data for the dates of the flight campaigns. These were in 2007 and 2008 so GlobAerosol data were not available for the bulk of them. Caroline has processed SEVIRI aerosol for them and will supply it to Gareth; Gareth will generate AATSR aerosol.

Maria Frontoso has sent a paper outline to Gareth.

3. ECV ITTs

Gareth has sent comments on the aerosol proposal to Thomas Holzer-Popp (DLR).

Caroline has sent comments on the cloud proposed consortium structure and allocation of tasks to Jorg Schulz (DWD).

Both are now awaiting responses.

4. Student progress

Chris has been rewriting and documenting his code to create GEWEX-style files, and looking at the impacts of changing cost thresholds on some parameters. Using a threshold of 10 gives generally a higher relative high cloud amount than higher thresholds of 15 or 30. A cost of 10 is planned for use for the moment, at least.

Haiyan was absent but Gareth mentioned that she'd had comments back on her oceanic aerosol – wind speed paper, commenting that our low optical depths (~ 0.07) were higher than those observed in remote locations by the maritime aerosol network (~ 0.04). They have been investigating the reasons for this: suggestions are cloud flagging, too dull a sea surface reflectance, and optical properties. Haiyan is doing some simulations with a black surface and single-scatter approximation to see whether any of these can be ruled out.

5. Publications

Reviewers have missed their deadline to respond on Gareth's GRAPE aerosol validation & trends paper.

Caroline showed some more plots to go in the GRAPE cloud algorithm paper. They show that simulated retrieval uncertainty is generally consistent with observed retrieval uncertainty. She also showed simulations on the effects a multi-layer cloud system would have on the single-layer retrieval.

6. AOB

Anthony Baran told Caroline that the way his ice crystal scattering properties are defined is changing. They will go from being defined in terms of ice effective radius to ice water content, due to a change in the way the UM is parametrising clouds. This will impact the way they are ingested by ORAC, should future versions of ORAC make use of future versions of the properties.

7. Next meeting

Tentatively scheduled for Tuesday, 9th February, AOPP, 10 am. It was decided not to meet in January as most people will have been on holiday for parts of the intervening time.